SUMMARY OF INVENTION

The present invention is related to novel bioactive pentapeptides, pentarphins, the main indication of which is enhancing phagocytic activity of macrophages against microbes. In particular, the cyclopentapeptide, cyclo(Val-Lys-Gly-Phe-Tyr), termed cyclopeptarphin, was 100 times more active than tuftsin. Cyclopentarphin was non-toxic even at concentrations 1000 times higher than the minimum active dose, while being non-immunogenic. Furthermore, cyclopentarphin is more stable to enzymatic cleavage *in vitro* as compared to linear pentarphin and tuftsin and, hence, its life span *in vivo* is also larger than that of linear peptides. High efficacy and safety of cyclopentarphin enable elaboration of novel drugs that enhance the resistance of human and animal organisms to microbes and micro particles.